



South Dakota Science and Technology Authority

630 E. Summit St. Lead, SD 57754

June 24, 2020

Mr. Darin Bergquist
Secretary of Transportation
SDDOT, Operations Support
700 E. Broadway Ave.
Pierre, SD 57501

Dear Secretary Bergquist,

This letter is to express the South Dakota Science and Technology Authority's highest recommendation to name a section of United States Highway 18 in South Dakota as a Memorial Highway in honor of Canton, South Dakota, native Dr. Ernest O. Lawrence.

Dr. Lawrence was born in Canton in 1901 and attended Canton High School. He earned his bachelor's degree in chemistry from the University of South Dakota in 1922 and his doctorate in physics from Yale University in 1925. Dr. Lawrence went on to become the youngest full professor at the University of California, Berkeley. In 1936, he became Director of the University's Radiation Laboratory and held these posts until his death in 1958.

During World War II, Dr. Lawrence made key contributions to the Manhattan Project and the development of the atomic bomb. In 1929, Dr. Lawrence invented the cyclotron, a device for accelerating nuclear particles to very high velocities. His work with cyclotrons earned him a Nobel Prize in physics in 1939. Two Department of Energy National Laboratories are named after Dr. Lawrence: Lawrence Livermore National Laboratory and Lawrence Berkeley National Laboratory.

As we advance world-leading science at the Sanford Underground Research Facility, we are proud that a fellow South Dakotan has made such a tremendous mark on the world's efforts to understand the universe. We are proud to follow in Dr. Lawrence's footsteps and again, give our highest recommendation for the naming of a Memorial Highway in Dr. Lawrence's honor. Thank you for your consideration of this application.

Respectfully,

A handwritten signature in blue ink, appearing to read 'Mike Headley'.

Mike Headley
Executive Director
South Dakota Science and Technology Authority

South Dakota Legislature



Senate Commemoration 823

*Introduced by: **Senators** Bolin, Lake, Nesiba, Novstrup, Soholt, and Wiik and **Representatives** Anderson, Bordeaux, Chaffee, Duba, Finck, Hunhoff, Kevin Jensen, Johns, and Perry*

A LEGISLATIVE COMMEMORATION, Honoring Mr. E.O. Lawrence for his achievements and accomplishments throughout his life and career, and encouraging our schools to recognize his achievements, and encouraging other recognitions of his life and achievements as deemed appropriate by the state of South Dakota.

WHEREAS, Ernest Orlando Lawrence was born in 1901 at Canton, South Dakota; and

WHEREAS, Mr. Lawrence was educated in primary and secondary schools in Canton, completed his B.S. degree from the University of South Dakota in 1922, his M.A. degree from the University of Minnesota in 1923, and his Ph.D. in physics from Yale in 1925; and

WHEREAS, E.O. Lawrence then became a professor at the University of California in Berkeley where, during his tenure, he helped found the Lawrence-Berkeley National Laboratory and the Lawrence-Livermore National Laboratory; and

WHEREAS, E.O. Lawrence, while at the University of California, invented the cyclotron, for which he was awarded the Nobel Prize for Physics in 1939. This invention greatly helped with the progress of nuclear science; and

WHEREAS, E.O. Lawrence is one of only two individuals born in South Dakota to be awarded the Nobel Prize in any category; and

WHEREAS, because of his significant scientific achievements, the chemical element 103 on the periodic table was posthumously named for him in 1961, an unprecedented achievement at that time:

NOW, THEREFORE, BE IT COMMEMORATED, by the Ninety-Fifth Legislature of the State of South Dakota, that the Legislature honors the achievements of Mr. E.O. Lawrence, encourages our schools to recognize his achievements, and encourages other recognitions of his life and achievements as deemed appropriate by the state of South Dakota.

Title **Memorial Highways and Auto Tour Routes**

Policy No. **DOT—OS—OT—3.2**

Persons Affected Operations Division

Policy Owner Operations Support

Effective Date 5/1/2019

Supersedes DOT-OS-OT-3.1

Next Review Date 5/1/2020

Purpose

To provide a uniform system for approving and signing Memorial Highways and Auto Tour Routes.

Background

Memorial Highways and Auto Tour Routes are recognized by the *Manual on Uniform Traffic Control Devices (MUTCD)* Section 2M.10: “Memorial or Dedication Signing,” and Section 2H.07: “Auto Tour Route Signs” (Auto Tour Route signing was previously called Trail signing in the *MUTCD*). Named Highways are covered in *Section 2D.53*. Named Highways are those roads known by common names, such as Needles Highway or Nemo Road.

Policy

Memorial Highways commemorate an individual or group of individuals of historic significance to the state of South Dakota or to the United States. Naming is generally restricted to a segment of state highway, and one sign is placed at each end of the segment. People wanting to establish a Memorial Highway must apply to the South Dakota Department of Transportation (SDDOT). Upon approval by the Transportation Commission, a \$2,000 fee to cover administrative and sign costs will be submitted to the SDDOT by the requestor.

Auto Tour Routes are of particular cultural, historical or educational significance. Signed Auto Tour Routes are used to follow the historical route of a trail, such as the Lewis and Clark Trail. Signs on an Auto Tour Route are placed at the beginning and end, and at intersections with other State highways. A reassurance marker may be provided at an intermediate location between such intersections. People wanting to establish an Auto Tour Route must apply to the SDDOT. Upon approval by the Transportation Commission, a \$2,000 fee to cover administration and sign costs will be submitted to the SDDOT by the requestor.

The SDDOT will determine sign locations and when signs need to be replaced because of deterioration or damage. Signs must comply with the *MUTCD*, and posts must comply with *NCHRP Report 350: Recommended Procedures for the Safety Performance Evaluation of Highway Features* or the *Manual for Assessing Safety Hardware (MASH)* requirements. Memorial Highways and Auto Tour Route signs will not be erected on the Interstate Highway System.

Procedures

I. Memorial Highways

<u>Responsibility</u>	<u>Action</u>
Civic organization, local government, group or individual (hereinafter referred to as the requestor)	<ol style="list-style-type: none"> 1. Complete a Form DOT-402, Application for Memorial Highways and Auto Tour Route Signs, available on the SDDOT website under Resources > Forms. 2. Provide documentation that the individual or group of individuals to be honored is of historic significance to the state of South Dakota or the United States. 3. Provide a map of the proposed route and sign locations. [It is preferred that Memorial Highway signs be placed at a rest area, scenic overlook, recreational area or other appropriate location where parking is provided.] 4. Provide proposed sign wording meeting these criteria: <ul style="list-style-type: none"> • The legend displayed on Memorial Highway signs will be limited to the name and title of the person or entity being recognized and "Memorial Highway." • The minimum size sign will be designed using standard highway fonts. • The sign will have a brown background with white letters. • Decorative or graphical elements, pictographs, logos or symbols will not be displayed. 5. Submit the form and supporting materials to: SDDOT Operations Support 700 E. Broadway Ave. Pierre, SD 57501
Operations Traffic Engineer	<ol style="list-style-type: none"> 6. After the application is received, check SDDOT records to determine if the highway segment is already a Memorial Highway. Only one name or designation should be used to identify the highway. If the route is already designated, work with requestor to find an acceptable alternate highway segment. 7. Notify the respective Region Traffic Engineer of the application and provide contact information. 8. Work with the requestor to develop the proposed sign wording. Signs will meet the following criteria: <ul style="list-style-type: none"> • The minimum size sign will be designed using standard highway fonts. Typical design is Series D font using a combination of lowercase letters with initial 6" high uppercase letters. • The sign will have a brown background with white letters. • Decorative or graphical elements, pictographs, logos or symbols will not be displayed. • Reflective sheeting will be ASTM D4956 Type IV.

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| | 9. Work with the Region Traffic Engineer on sign locations. One sign on either end of the route will be installed. |
| Director of Operations | 10. Review request and proposed sign wording.
11. Make recommendation to the Transportation Commission through the Secretary of Transportation. |
| Transportation Commission | 12. Approve or disapprove the dedication of a Memorial Highway.
13. Approve or disapprove of the wording of the proposed signs. |
| Operations Traffic Engineer | 14. Notify requestor if approved or disapproved by the Commission. If approved, request submittal of the \$2,000 fee. |
| Requestor | 15. Send the \$2,000 fee to:
SDDOT
Operations Support
700 E. Broadway Ave.
Pierre, SD 57501 |
| Operations Traffic Engineer | 16. Notify the Region Traffic Engineer of Commission approval or disapproval. |
| Region Traffic Engineer | 17. Order and coordinate installation of the signs. Signs should be installed beyond other necessary guide signs, typically 400-500 feet beyond an intersection. |
| Operations Traffic Engineer | 18. Maintain an inventory of approved Memorial Highways with contact information, approval dates, location and sign information. |
| Region Traffic Engineer | 19. When replacement signs are needed, coordinate installation of new signs. All replacement signs will meet sign design and placement requirements in effect on the date of replacement. |
| Transportation Commission | 20. May reconsider and revoke approval of a Memorial Highway at any time. If an approval is later revoked, the \$2,000 fee will be retained by the SDDOT. |

II. Auto Tour Routes

Responsibility	Action
Civic organization, local government or Auto Tour Route group (hereinafter referred to as the requestor)	<ol style="list-style-type: none"> 1. Complete a Form DOT-402, Application for Memorial Highways and Auto Tour Route Signs, available on the SDDOT website under Resources > Forms. 2. State why the route is of particular cultural, historical or educational significance. 3. Provide a map of the proposed route and sign locations. 4. Provide a draft concept or sketch of the proposed sign. The signs will have directional arrows below the main sign and meet the following criteria: <ul style="list-style-type: none"> • Maximum size is 6 square feet. • Color and layout will be consistent with the <i>MUTCD</i>. 5. Submit the form and supporting materials to: SDDOT Operations Support 700 E. Broadway Ave. Pierre, SD 57501
Operations Traffic Engineer	<ol style="list-style-type: none"> 6. After the application is received from the requestor, determine if this stretch of highway is already an Auto Tour Route. Only one name or designation should be used to identify the highway. If the route already is designated, work with the requestor to find an acceptable alternate highway segment. 7. Verify that a prospective route meets the definition of an Auto Tour Route. 8. Notify respective Region Traffic Engineer of viable application and provide contact information. 9. Work with the requestor to develop a proposed sign design meeting all of the following criteria: <ul style="list-style-type: none"> • Maximum size is 6 square feet. • Color and layout shall be consistent with the <i>MUTCD</i>. • Reflective sheeting will be ASTM D4956 Type IV.
Director of Operations	<ol style="list-style-type: none"> 10. Review request and proposed sign design. 11. Make a recommendation to the Transportation Commission through the Secretary of Transportation.
Transportation Commission	<ol style="list-style-type: none"> 12. Approve or disapprove the dedication of an Auto Tour Route. 13. Approve or disapprove of the design and text of proposed signs.
Operations Traffic Engineer	<ol style="list-style-type: none"> 14. Notify requestor if approved or disapproved by the Commission. If approved, request submittal of the \$2,000 fee and an electronic copy of the sign design.

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| Requestor | 15. Send the \$2,000 fee to:
SDDOT
Operations Support
700 E. Broadway Ave.
Pierre, SD 57501 |
| Operations Traffic Engineer | 16. Notify Region Traffic Engineer of Commission approval or disapproval. |
| Region Traffic Engineer | 17. Order and coordinate installation of the signs. Signs should be installed beyond other necessary guide signs, typically 400-500 feet beyond an intersection. |
| Operations Traffic Engineer | 18. Maintain a database of approved Auto Tour Routes with contact information, approval dates, location and sign information. |
| Region Traffic Engineer | 19. When replacement signs are needed, coordinate installation of new signs. |

Related Documents

Manual on Uniform Traffic Control Devices (MUTCD)

Form DOT-402, Application for Memorial Highways and Auto Tour Route Signs

Signatures

_____ Darin P. Bergquist, Secretary of Transportation	_____ Date
_____ Gregory T. Fuller, Director, Operations	_____ Date
_____ Mike Behm, Director, Planning and Engineering	_____ Date
_____ Tony Ondricek, Construction and Maintenance Engineer	_____ Date

DOT-402 (4/15/2019) SOUTH DAKOTA DEPARTMENT OF TRANSPORTATION
Application for Memorial Highways and Auto Tour Route Signs

APPLICANT INFORMATION

Name: Benjamin F. Jones and Michael Headley
Representing: SD Department of Education and Sanford Underground Research Facility
Address: 800 Governors Dr
City: Pierre State: SD Zip Code: 57501
Phone Number: (605)773-3134 Fax Number: _____
Email Address: _____

APPLICATION FOR: ☒ MEMORIAL HIGHWAY or ☐ AUTO TOUR ROUTE

ASSURANCE:

a. MEMORIAL HIGHWAYS:

Proposed Wording on Sign: Ernest O. Lawrence Memorial Highway

The legend displayed on memorial signs shall be limited to the name of the person or entity being recognized and a simple message preceding or following the name, such as "Dedicated to" or "Memorial Parkway." Additional legend, such as biographical information, shall not be displayed on memorial signs. Decorative or graphical elements, pictographs, logos, or symbols shall not be displayed on memorial signs. The route number or officially mapped name of the highway shall not be displayed on the memorial sign. Memorial names shall not appear on supplemental signs or on any other information sign on or along the highway or its intersecting routes. The lettering for the name of the person or entity being recognized may be composed of a combination of lower-case letters with initial upper-case letters.

Provide information describing the individual or groups historic significance to the State of South Dakota or to the United States. The information submitted will be what the Transportation Commission uses to consider and evaluate the request. Please be as specific and complete as possible and provide adequate details. Utilize the following guidelines (add additional sheets as necessary):

- ❖ A memorial highway can be named after an event, person, or organization.
- ❖ The named entity should be associated with activities or events that have made a significant contribution to the broad patterns of South Dakota history.
 - Guideline for this requirement could be documentation in commonly recognized history texts.
 - The application process requires a detailed explanation and documentation of the historical significance.
- ❖ Statewide historical significance of the event, person, or group should be directly related to the geographic area known as South Dakota.
- ❖ The event, person, or group of national historical significance should have direct association with the state of South Dakota.
- ❖ The person or persons should be deceased for at least 5 years.

DOT-402 (4/15/2019) SOUTH DAKOTA DEPARTMENT OF TRANSPORTATION
Application for Memorial Highways and Auto Tour Route Signs

JUSTIFICATION:

Ernest O. Lawrence was born in 1901 and graduated from Canton High School. He graduated from the University of South Dakota and later received his doctorate in Physics from Yale University. While a professor of Physics at University of California, Berkeley, he invented the Cyclotron, a device that was vital in the further development of nuclear fission and nuclear weapons. For this he was awarded the Nobel Prize in Physics in 1939. He led aspects of the "Manhattan Project", the massive top-secret effort to develop the first nuclear weapons during the Second World War. After the war, Lawrence continued his leadership in nuclear research and founded the Lawrence – Livermore Laboratory and was a leader in "Big Science" during the American effort opposing the Soviet Union during the Cold War. He passed away in Berkeley, California in 1958.

In the 2020 South Dakota Legislative Session, the members passed "SC 823 A Legislative Commemoration Honoring Mr. E. O. Lawrence commemorating his achievements and accomplishments . . ."

Heilbron, J. L.; Seidel, Robert W. (1989). *Lawrence and his Laboratory: A History of the Lawrence Berkeley Laboratory*. Berkeley, California: University of California Press. ISBN 978-0-520-06426-3. OCLC 19455957

Alvarez, Luis (1970). "Ernest Orlando Lawrence 1901–1958" (PDF). *Biographical Memoirs of the National Academy of Sciences*.

b. AUTO TOUR ROUTE:

Proposed Auto Tour Route name: Ernest O. Lawrence Memorial Highway

Specify what makes the route of particular cultural, historical or educational significance (use additional sheets if needed):

This section of US Highway 18 runs through Lawrence's home town and birth place.

Attach a copy of the tour route symbol if applicable.

FOR EITHER A MEMORIAL HIGHWAY OR AUTO TOUR ROUTE, STATE THE HIGHWAY NUMBER AND BEGIN AND ENDING POINT OF ROUTE TO BE SIGNED:

The section of US Highway 18 from US I-29 to the Iowa line.

- ❖ *Attach a map of route or routes to be signed.*
- ❖ *Attach any letters of support, resolutions by supporting governmental entities, or applicable information.*
- ❖ *Upon approval by the Transportation Commission, a \$2,000 Fee to cover administration and sign costs will be submitted to the SDDOT by the applicant.*

DOT-402 (4/15/2019) SOUTH DAKOTA DEPARTMENT OF TRANSPORTATION
Application for Memorial Highways and Auto Tour Route Signs

CERTIFICATION OF APPLICANTS:

I certify that the above and foregoing statements are true and correct and I will inform the Department of any changes to the above indicated information that may affect the availability of the service provided in accordance with State Law, and Manual on Uniform Traffic Control Devices.


Applicant's signature

6/23/2020
Date

Submit Application, Documentation, and Map to:

Operations Support
SDDOT 700 East Broadway
Pierre, SD 57501
(605) 773-3571